Notebook, N-87-04-00

This undated notebook is a continuation of N-87-03-00. It was used by Edison for notes on squirted filament experiments, nos. 167-207. There is also a 3-page list of fluorescent materials. The pages are unnumbered. Approximately 90 pages have been used.

167 =

We had 4 lots of these

167 Bunn 4 dia
167 Top - $4\frac{1}{4}$

$167\frac{1}{2}$ Top $3\frac{1}{2}$
$167\frac{1}{2}$ Bunn $3\frac{3}{4}$

3 Hour OK Splendid

167

Before Clg $6\frac{1}{4}$/1000
after " 4 = Bunn
$4\frac{1}{4}$ = $3\frac{1}{2}$
another 67 bu
3 3/4

6 grammes Carbonite

10 cc of the Lukewarm alcohol (wood) al with excess of acetate alumina for 12 hours —

The 10 cc precipated by Ammonia and then filtered & washed with Alcohol. When jelly like transferred to beaker + alcohol added

Enough to wet the Carbonite
Mercury — ground well in
Mortar till yellow powder —
then put in Water oven
and dried 1/2 hour —
Then set aside in dish for
3 or 4 hours (Covered)
waiting for Freddy to
get a new 5000 die made —
& add 1.600 Milligrammes
Camphor in enough Ether to
thoroughly wet the Carbonite
but grind the Carbonite

a little finer to break up
lumps made in drying.

Squents perfect - low heat,
fils perfect, very seldom a
spec, round & even, by not
having heat constant it
got too high or too low at
times and the fil puffed
slightly or surface wasn't
shiny when heat too low
Could the heat in dies be
kept constant thus fil
Comedy apkg would be an

ideal one to make, no trouble at all — but the heat must be regulated just to get a good shine + kept there — very little puff in spoon in fact fine —

Big Cbz = 167 little dirty but good — those that were puffed originally are otice puffed = the rule keeps round + goes down to 1/3 original size and in quantity to at least twice of not more than in 132 = End on good —

168

Is same as 167. except.
2.500 of Napthalin
dissolved in warm gasolene
The small beaker 3/4 full of
gasolene will not dissolve
2 ½ gms of Napthalene so I
warmed it, When I got
it nearly to drying I noticed
glistening particles of
Napthalin, got it dry so
smell of gasolene gone
when it become very electrical

and it was difficult to
powder. We found on
putting in dia that very
little heat was required
which was contrary to 136,
but it took considerable heat
to get the shine, & then two
things occurred, Crystals
of Naphthalin showed on
film, + the film taken
+ laid on paper warped
all up = also processed and
got in die + cut the film

in thin threads

We then took the fels already made & balance of the ingot & repowdered, but on a quarter again there was still too much Naphthalin, We then squeezed the whole ingot into fels & repowdered & dried in oven, on trying it again we couldnt get a shine even with great heat, fels were round but no shine & we even

increased heat as there
was a slight puff
noticed. The first fil,
made of tried in spoon
they seemed even less
than 167 and have
fine shine — With the
proportion of Nap.
they will be very fine —
I think about, 1.500.
for 6 gms of Carbonate &
well dried after gasolene
in will do the business

169 – 3 Hours OK not ~~stand~~ very shaky
after Chgn Trp 4
Burned 4½

6 grms Cbt

10 cc Magnesia Sal –

worked same as 167,

to 1/2 of it get 750.

Milgms Naphthalin, by

mistake used amount

gasolene enough for 6

grms took considerable

while to get dry or

when only family

dry it gets so electrical
Conductor powder it any
further, took powder
out having faint smell
gasoline & put on
paper & held over
flame 2 or 3 times
stirring it -
squibs OK but no amount
of heat gives a shine -
if too much heat puffs
without any shine
we got a few that we

May be able to clean
some are slightly puffed
other ok but poor
surface —

170 —

3 Hour elegant — slight burning stick together but they play out to be all in a bunch so they get separate [illegible]

2nd 1/2 of 169 — ~~[illegible]~~ Top

800 Milgms Salol.

(Salicylate of phenol) in

Mal — next time try Ether

Works nice in Motor can get to very fine powder, and do not think it very Volatile, dont stick to motor — Squirts fine feels good. Even but shine not perfect, if by get it perfect slightly puffs

If it shines in CO_2
it would be a very nice
fel to work in die

perhaps it needed 1.000.
of Salol - it dont puff much
in oven it split open

171 — 3 from fine, shows tendency stick, some pieces charcoal stuck to them but figures will come OK

Same as 167 - 1/2 part of 6 or 3 gm

Except, 800 mg Betal (Napthol) in Ether - works fairly well in motion towards end inclined be electrical, also stix to mortar (fr) friction, ~~is not extra dark in~~ Ether as had use excess, it creeps in beaker & evaporates out volumetric ware & some trouble but altogether it worked fairly OK = equite perfect

fils very shiny - Even very few specs - dat marked X

171 got Kelth too much

heat + there is puff
blisters on them.
with good regulation
of heat Betal is fine
felt tough, + exhaustly
even —

Note, in opening 172
for next fil we found
by using low heat +
giving time, the shine
came ok + there was no
danger of puff blisters

172. 3 Hours exploded

1/2 of 6 gms

Same as 167

Except used 800 mg

Trichlorophenol in Ether

Works well in mortar,

~~& quickly~~ - to powder,

~~dont stick to mortar~~

~~forceit get to work in Mortar~~

~~wipe~~ Cannot get powder

very fine as it ~~pbly~~ balls

slightly together Trichl Ben

and extra good solvent

of it —

Sqrts perfect, paloli
perfect Even no puffs
Except perhaps last batch
May have some fine blisters
Even dont puff much in
spoon — Elegant —
used low heat (jets 1/8) +
gave it time —

3 hours after not Echo shining
no Tricky

173 — 1/2 of 6 gms

6 Cbt. Before cbs 5 3/4 / 1 hrs
after Tup 3 3/4 B 4

40 cc of Cold Saturated
Sol 6 hours of Alum
precip by Ammonia
Water washed then
Wood alcohol —
worked to powder + dried
bath, 1/2 taken:
+ well ground —
~~[illegible] Camphor in Ether.~~
One gram Camphor in Ether,

Works fairly well in mortar
powder isn't fine as Camphor
has tendency ball —
use low heat but great
time,
Had heat too low —
wanted max heat than
we gave it, but fils
chemy good ~~up~~ but
its not a perfect machine
to work. but had we
the proper heat it wld
have p'bly gone OK —

174 = 3HCly - shrink together, puffed little
But think they cannot be separated
in practice, possibly by very slow
preliminary weight get them off

Same as 173 -

Except 1 gram Betol -

in Ether - I ground the

Cbt (before putting in Ether)

finer than usual -

Squirtid perfect but fils melt

in flame - this is poly

due to the Extra fine

powdering as when we

powder fine we permit

more Betal to percolate

the particles, This would
go to show that either
Acetal or other
solvent would be used
or the air can be
increased very much
the good people

They will not Carbonize
undoubtedly

Acetal & Thumb make a
Chem Reaction to make
Cbt melt, Camphor on
20 cc Mag ground 8% film
dont do it - dont puff
in flame

Or Contains with Tetrahydrate
+ Cbt

175 - Top - after Bq C Cgn -
Not mirror like, fair - spec
dust in them - got nearly all
dissolved - ok no puff -
The die was aggressive, Good -
Bakelite again very slow

175 - OK - 3 Hour Cbg Elegant but
surface not extra shiny

Before Cbgn 6 3/4
after Top 4 1/2
after Bmt 4 1/2

~~Same as 16~~
6 Cbt
20 cc of Lukewarm Al Sol
Acetate Mag - pp by
[illegible], washed al-
divided this in 2 parts
this is first part,
putting ~~[illegible]~~ 750 mlgms
Camphor in Ether ~~[illegible]~~
and grinding the stuff
finer than usual like
174 — Aquarts fine

film not extra shiny but
shiny - a pile perfect,
no specs even nice
it dont react at all
like Bilal, hardly any
puff on flame -
Evidently Bilal makes
new chem of CBT, while
Camphor is a solvent,
Evidently grinding this
number times helped to
get better film with 750

Camphor than if it hadn't
been fine - - in a greater
heat should be regulated
so not get blisters, a
few of fine have slight
blisters, —

3 Hours OK - surface not Ether - dry

176 = 2nd pt, 3 gms

Same as 175 but with
.750 Betol in Ether —
Stuff ground fine —
before Betol put in —
This will prove if Betol
Combines with the Cbt
or the Trihydrate of Alumina
to make fels. Melt,
Sgts perfect shine better
than 175 — good

Very few flaws - Even
puffs very little in flame
this shows that it
was the hydr of alumin
that made Baral melt
the fils —

177

3 Hours Nig - puffed but not as awful - ½ the NHCl. wound poly perm puff -.
atrick (after some

6 Cbt

~~to some hydrol [illegible] of [illegible] to be~~

750 mlg of Chloride of Ammonia dissolved in alcohol & then precipitated by pouring into Ether then filtered & washed with Ether, then the pulp stirred up in Ether & poured on 6 Cbt & worked in

usual way by grinding
& drying — Water
bath — This No is 1/2
of the batch (1E) 3
grms — I used 800
Mlg Camphor in Ether
~~ground fine before putting in~~
Camphor —

Squares fine but the CHCl am
Crystlzs out in 1/10000 crystals
Those Crystals are embedded
in the surface of the

film makes it rough
in the spool the film
swell up 2 or threes times
than diameter than in
full heat in spool
diminish in size —
dont think can carry
them, ~~they~~
End on shows crystals
rough not shiny —
We shall not use the
2nd part =

178 3 Hour OK - but surface dull
not shiny - perhaps I got some that
were not originally shiny

6 Cbt -

I made what I supposed
Fluoride of Lime by
~~[illegible]~~ putting a solution
of Chl Calcium in fluoride
Soda & then adding
Ammonia to make it
alkaline, it gave an
exceedingly fine precipitate
like Magnesia & it
was 2 days filtering

I took of the dope
about equal bulk
to that given by
10cc magnesium sulphate
I dilute it in 2 pts
this No is 1st part,

fils equal perfect round
bits drag crax until heat.
gets very high then it
equals perfect shiny
+ very free of flaws

~~The~~ but towards end
Camphor or something got
wrong ~~[illegible]~~ only got
2 fingers full —
The Ash is altogether
too much there must
be ~~twice~~ ~~a~~ ~~[illegible]~~ 3 times
as much ash as in any
fil so far, in spoon)
it dont puff at all.
They will carbonize perfect
The 2nd lot I am going
to put ~~[illegible]~~
600 mg. Belal

~~179~~

~~I am Co[illegible]~~

~~afraid to use Betel~~

~~for fear of some reaction~~

~~with the fluoride —~~

~~179~~ 2nd ~~[illegible]~~ 7/8

800 mg Betal,

~~equal~~ ~~[illegible]~~ pills shiny not

extra o[illegible] out fa[illegible]

Shin[illegible] Betal is better

than Camphor as a regular

Salicyl the same weight will

make generally more

shiny fellow to it puffs

no more than Camphor

179 = Bitter OK surface not shiny
dec strips

2nd 1/2 of 178 Before clgn $7\frac{1}{2}$ aft (Burned) $5\frac{1}{4}$

~~Equal Camphor~~

800 mg Bēlal, in Ether equal good fib morsching than Camphor in fact for equal weight, Bēlal gave more morsching fib puffs no more – there was a slight tendency to Cough. Bēlal requires a much lower heat than Equal weight Camphor –

Dust off ~~[illegible]~~ spoon

after Big Cbgn

1919: Lots of specs outside, think its fluoride, tho it may be the stickiness of fluoride coming out that all tools flying fast when on orth in spoon ~~as also~~ shows immense amount of fluoride or lime, holds shape of filament, = separate good — when burned in sand dust there will be no trouble about sticking of the filament,

Anode not narrow — the die was sticking + not smooth, ~~[illegible]~~ good die + probably less fluoride = fil put right in flame, the dum shrunk to 1/2 the diameter + keeps round —

180 — 3 Horn Aplenda — shim perfect all perfect,

.6 Cbt 1st 1/2

Before Cbgn 6
after Top 4
B — 3 3/4.

20 cc of Alum Solution

pp by Ammonia —

750 Camphor —

ogots perfect fils perfect, Even no flaws, perfect shim but puff great deal in spoon from they will not Carbonize wants about, 450 Camphor in 2nd half —

Big Cbg = Burned fils — all stuck together Calculate separate amp — fils are be careful — Mercury all it wants is Vaporization to bring them out perfect — Dust puff in the alight first degree — oxidizes very slowly in spoon & down to spider web + very slow in chamber — Cotton spider web + very slow in chamber — while among in Micro hilly — no puff reports.

181.

2nd part of 177

I am going to use 800 Camphor in Alcohol instead of Ether to see if I cant get rid of the Crystals of Chl Ammonia,

Mg - Water — A brittle

Mg

3 Hours OK = ocular not X obs

182

2nd 1/2 of 180 –

Before Cbgs 6 1/4
after B 4
also 3 3/4
Top 4

450 mg Camphor —

Splended fits all round
but they puff sad — opacous
don't think they will cbg
200 mlg wild do better,
Wonderfully there wit ~~simple~~
Albumina —

182 Top –

BeqCbg = got nearly all of fits –
Clear no opts. on them – Mirror like –
no puffs – Cbgs w/ opacous very slow –

20 cc of Magnesia Sal
gave 465 mg dried Hydrate

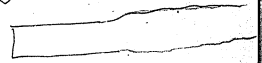
164 =

Test in wall furnace in carbon boxes nothing on fels.

3 degs minute, 300 degrees puffs some in spoon

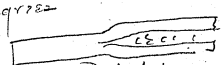
brittle,

400 degrees puff very little in spoon



Tough to handle

500 degrees



Surface not puffed but has

nearly the ~~on~~ slightly oxidized original surface, but split open showing centre not cbzd —
Very tough =
fels brat to 500 degrees (can be handled roughly are shiny tough + can be bunched) without form of stocking -

Contraction at 300: $6\frac{1}{4}$ to $5\frac{1}{2}$ — at 400 deg
$6\frac{1}{4}$ to $5\frac{1}{3}$ — 500 deg
$6\frac{1}{4}$ to $5\ 2/10$ — Thus between 0 + 300 Camphor E/C contraction, between 300 + 400 Lattle. Contraction bet 400 + 500 probably Carbt Contraction
500 is Evidently the point

for preliminary to strip —

600 degrees = when we took box out I saw the files creeping & moving when expanded under mercury they were all contracted & split & broken in every manner — now were they expanded or contracted on was it the sudden cooling

183 –

3 Cbt. put in water
bath 1/2 hour – 600 Camphor
in ether – gets Elec a little
tingling end – used gets
about 1/2 high – had warm
immed to start with
but no storm – Kept 1/2
heat on all time, but
shine not mirror – no
blisters got two fingers
& one small finger in towards
end was shiny because

Freddy put steam on, but
there were blisters, yet it
was shiny — disappointed
hand — probably so that
there is not enough Camphor
I think the next with
800 will be about right,
(400 was bad) —

184 =

3 C6f. in water bath
1/2 hour. 800 Cam in
Ether -

3 prints fine - but surface
which shows not mirror
like in gat film - no blisters
3 fingers — of which 2
are good - surface shows
micro ripples

185 -

3 Cbt

1 ooo Camp

11 cc Ether

Aquists fine, but can't get mirror, there is the Aylesbury surface. 3 fingers -

186

Duplicate of 184
with more polished die

This work fine = mirror
no puff - very faint blisters
on first lot =
This shows the die that
gives mirror at least it
helps hence 183 4 & 5
will have rough surface
after C bzn -

187 =

Dup of 185 –
but with better polished
die,
They are not mirror like
like 186 – showing that
186 took the polish off
the die –
squares fine fils fine
but not mirror
no blotters,

188-

3 cbt - 1200 Cam 10 cc Ether

using same discs as 187 -

Squares perfect, was found
Cuttridge rough & put in
a more polished one -
perhaps this helped.
File Mirror, slight blisters
at times, square perfect,

189

3 cbt

600 Betal — final powder
not fine —

perfect Mirror file —
no puff but faint blister
on last f — full —
Dgrts fine — puff terribly
in flame —

Note, the Amp of 167.
Run up to 500, at rate of
3 deg minute open in box
lined with Asbestos, held at
500, for 6 hours came
out strong fine — tough —
when put in upon right
in flame split open a little
totally puffed out, in sound
stood stand any 800
without splitting but
after this put champion
right in flame when they
split great so bad as of
they had been put in flame
in first place —

190

3 Cbt

400 Trichlorophenol - " Ether

Squirts perfect, Mercroi,

one pimpler ~~pat~~ blue band

other 2 ok - Very sensitive

to heat, use 1/16 inch jet

give it time - fill melt in spoon

Think 300 will be better

Note

Perhaps I didn't get all the ether out, or there may be a reaction which in gross that makes a volatile seed which accounts for blisters at low heat.

Next number will make in powder dry ——

191

3 cbt
300 Trichlorophenol in Ether

worked this dryer than 190
so dry it was disagreeably
Electrical on Mathers

Squirts good - fairly shiny
had use 1/2 mole gels -
then went very hard -
no flakes, but some
specs = Evidently didn't
have 190 dry enough -

172

Duplicate of 191

with more heat on the die
and powder just as dry
of heat dryer —

193 -

3 Cbt - better purified
750 Naphthalin in Gasolene
put in & worked to dry powder
then 400 Trichloroplenol in
Ether put in & worked to
powder —

[illegible] good & Eom no puff —
Nothing would be better to
work them then after
Cozyd off —

~~1X~~ -

3 Cbt

400 Trichlorophenol

750 Paraform both dis

in ether - The paraform

only partially dissolved

[illegible]

poured off [illegible]

to powder - [illegible]

in dis[illegible]

Dried [illegible]

~~1977~~ =

3 Cbt
1 pro 20 -
500 Trichlphenol with the
Cbt + 20 pound well together
then Trichl solution put in
a rocket to powder

No

194 –

3 cbt
500 Trichlorophenol Ether
750 Naphthalene gasoline –
Nap first –

Had to repair all worn
Dies today – Monday started
with 004 Sapphire jewel die
different agent on account
hard & large Dies – squeezed
a few nail coming –

195 no test,

3 c.c. 6 baked
2 grms Naphthalin in Ether
with 100 mg Trichlephenol

---

no test,

196

3 Cbt
400 Trichlephenol Eth
750 Nap in Gasoline

Aquatic fauna - Lemnaceae
+species - not Salvinia

Ohmy

97 =

Same as 196 except
both Trichl + Nap in
Ether - not extd
O long + long chunks.

198

3 cbt.
400 trichlorphenol
500 naphthalene
2 grams from [illegible]

179 =

Cbt not gasolened but ground in Mallin -

3 Cbt

400 Trichlorphenol

400 - Naphthalin

[illegible]

[illegible] 3/10 -

works only four minutes

2 or 3 times fels have

speed =

200 -

Cbt gasolened,

3 cbt. bird bed gases 9
didn't dry it enough before
weighing hence a lost
weight today only 2 gms
[illegible] Iodide ff and
500 [illegible] of that

Sigmund to perfect not a
break of the perfect mirror
but slight puff spot.
only took 1/3 of the
dose. the other is
ground fine + will sigmund
it as No 201

201 -

other half of 200
but ground first after
7 days + much put in -
its occurrence was
due to other inside
particles -

This dust ~~a great weed at all~~
~~took late head + not~~
good ~~on face~~ - showing
that 200 was a little
damp + that what's made
it go — we shall now
use a liquid

place of Naphthalene

(10) Cresylic acid

p. 102

3 cbt gasolened —
stirred in bath before
weighing —

300 milligrammes of
Cresylic acid —

750 mlgms Naphthalin,

Dedut powder at very fine
powder while apparently
dry likes could be flakes
in water — squeezed
perfect, shine fine Even felt
but puff specs + occasionally
surface dry flaws — if we use
vacuum might make pulp chunk
felt will be

practically perfect as the specs are walling but air bubbles under pressure when released as fill becomes press puff afterwards, whole fill is hot. The previous formation of an ingot in Vacuo & with heat & quench it will remain then difficulty

203 is other half of

202 = powder was put in press plunger put in about 1/2 of what it would be to make powder round, boiling water heat only kept on 2 minutes with idea of vapor of Creosotic a driving out air — then plunger put down & quenched. Quench perfect specs very small but fill yet with plenty heat

fels went to minor
without ~~[illegible]~~ puffing
specs just a few in numbers
flaws scarcely feel
yet. should allow 50.
mg extra (10) 350 mg
of Creosote & water heated
for 5 minutes to displace
all the air, think flaws
are due to air as well.
Carbon fell to 62 throws
Sidewise by its expansion
at moment coming out.

3 cbt gasolened & dried
before weighing –

350 Creosote acid
750 Naphtha & Ether.

Put powder in press &
lights ⅛ high & hot water
in jacket. with plunger
only in 1/2 inch. 10 minutes
at end 5 minutes commence
run plunger down gradually
in 13 minutes it had
reached & consolidated
~~[illegible]~~ ~~& fell came~~
perfect except very fine
specs, either ducts

residual air or lumps
thank the air going
Try Vacuum —

1/3 of

3 cbt gasolene + dried before
weighing
350 mg Cresylic acid
750 Naphthalin

Works perfect most perfect
shine yet no puffs —
open microscopic or few
Used Vacuum, powder been
put in plunger put on 1/2 inch
+ heat put on Vac, while
Vac after 5 minutes 9
Run in plunger to solid
heat.

Made 203 then lines of
205 with [illegible] allright
perfect not some bad spots
[illegible] narrow up in spots
[illegible] off too much

206 –

3 oct - [illegible] grease
before weighing
200 mg [illegible]
750 Naphthalene
Vac

Squeeze oil but there are
narrowing places & specs
& not extraordinary but
feels one fair as far as can
see the lights being shut
off Saturday p.m.

207 =

3 cht
200 mg Cremyl c
950 Wrp
Agate 004 Dia
did not wk good
Rough fils small

5400 —
200
6100

5) 3500
7

30

200 —
1800 —
1200 —
420
900
900
5420

100

10
30 —
30 —

105
20
200

600

1000
200

5 20000

Silver Benzoate
Triphenylamine Sulphate
Lithium Sodium Benzoate
Barium Benzene Sulphate
Sodium Anthranilate
Lead Salicylate
Uranium Borate
Silver + Sodium Chloride
Platinum + Ammonium Cyanide
Gold + Sodium Cyanide
Platinum + Potassium Lithium Cyanide
Platinum + Strontium Cyanide

Fluorescei more muddy –

Bismuth & Sodium Salicylate
Lead Sulfo Carbolate ✓
Ammonia Mellitate ✓
Lead Benzoate ✓
Potash Chromo – Salicylate
acid mono – chromo Benzoic para
Cinchonidin di hydro Crom.
Sodium Chlor Hydro phosphate.
Lead Sulfo Cyanate ✓
Lead Tannate.
✓ Calcium Silico fluoride. Bismuth Benzoate ✓
✓ Sodium Sulphanilate – Sodium Sulfo Carbolate ✓
✓ Mercury Urate. acid Quinaldine Sulfonic para ✓
Caffein Hydrobromate. Mercurous Benzoate ✓
✓ Sodium para Cresolate. Sodium Anisate ✓
Cinchonidine hydro – Iodide ✓
Bismuth & Sodium Benzoate. Zinc & Manganese chloride
Ethyl Hexcoyl Succinate. acid mono Iodo Salicylic
Uranium & Ammonium Carbonate ✓
Potassium Sulfo Benzoate.
Potassium Benzene disulphonate.
~~Cum~~ Acenaphtene

over

Fluorescers from Last list
Merck Chemicals –

Good –

✓ Sodium Napthylamine Sulphonate

Lithium & Sodium Salicylate
Sodium Sulpho Salicylate
Cadmium Salicylate ✓
✓ Uranium & Calcium phosphate
✓ Zinc & Potassium Cyanide
✓ Copper & " "
✓ Uranium Oxychloride
~ Platinum & Calcium Cyanide
✓ " & Ammonium "
✓ " " Cerium "
✓ " & Potassium Sodium "

No 1 Box 167 - one lot buried one lot exposed on top —

No 2 - 167 - Two lots both buried -

No 3. 170 - one lot buried one exposed

No 4 171 - Two lots buried one exposed

No 5 172 2 lots buried one lot exposed

No 6 173. 2 lots buried one lot exposed

No 7 174 - Not buried but exposed.

No 8 175. 2 buried on top -

No 9 176 - ~~two~~ buried one top

No 10 - 179 buried tarpfile - small on top

No 11 180 - 2 buried 1 top

No 12 182 - 2 buried 1 top

No. 13 - 169 buried -

No 14 164 2nd half - buried -

No - 15 167 - all on top -

No 16 - 167 - buried -

167 No 1
168 — none
169 No 2
170 — No 13.
171 — No 14
172 No 15
173 No 16
174 — No 9.
175 No 10.
176 No 11
177 No 12
178 — No 5
179 — No 6
180. No 7.
181 — none
182 — No 8

in 344 Some 167 were placed with nothing in them — (18) no sawdust

No 344 3 Hour Cly Opaque shine mirror.

167
168
169
170
171
172
173

6
3

3.5) 35
70

100
80
18 (800 (
5
35
85 (350 (3

3.5
3.5
175
105
12.25

3.

100) 800 (8

3
70
210

2) 35
18

5
80
3.5

1

1 180 (800 (4

5
40
250

5
6
30

84
20
100.0

25
80
2000

100
25
500
200
2500